whole cloud; and, in leaving it, flaſhes brightly and cracks loudly; the particles inſtantly coaleſcing for want of that fire, and falling in a heavy ſhower.

30. When a ridge of mountains thus dams the clouds, and draws the electrical fire from the cloud firſt approaching it; that which next follows, when it comes near the firſt cloud, now deprived of its fire, flaſhes into it, and begins to depoſite its own water; the firſt cloud again flaſhing into the mountains; the third approaching cloud, and all the ſucceeding ones, acting in the ſame manner as far back as they extend, which may be over many hundred miles of country.

31. Hence the continual ſtorms of rain, thunder, and lightning on the eaſt-ſide of the *Andes*, which running north and ſouth, and being vaſtly high, intercept all the clouds brought againſt them from the *Atlantic* ocean by the trade winds, and oblige them to depoſite their waters, by which the vaſt rivers *Amazons*, *La Plata*, and *Oroonoko* are formed, which return the water into the ſame ſea, after having fertilized a country of very great extent.

32. If a country be plain, having no mountains to intercept the electrified clouds, yet is it not without means to make them depoſite their water. For if an electrified cloud coming from the ſea, meets in the air a cloud raiſed from the land, and therefore not electrified; the firſt will flaſh its fire into the latter, and thereby both clouds ſhall be made ſuddenly to depoſite water.

33. The electrified particles of the firſt cloud cloſe when they loſe their fire; the particles of the other cloud cloſe in receiving it: in both, they have thereby an opportunity of coaleſcing into drops.—The concuſſion or jerk given to the air, contributes alſo to ſhake down the water, not only from thoſe two clouds but from others near them. Hence the ſudden fall of rain immediately after flaſhes of lightning.

34. To ſhew this by an eaſy experiment. Take two round pieces of paſteboard two inches diameter; from the center and circumference of each of them ſuſpend by fine ſilk threads eighteen inches long, ſeven ſmall balls of wood, or ſeven peas equal in bigneſs; ſo will the balls appending to each paſteboard, form equal equilateral triangles, one ball being in the center, and ſix at equal diſtances from that, and from each other; and thus they repreſent particles of air. Dip both ſets in water, and ſome cohering to each ball they will repreſent air loaded. Dexterouſly electrify one ſet, and its balls will repel each other to a greater diſtance, enlarging the triangles. Could the water ſupported by the ſeven balls come into contact, it would form a drop or drops ſo heavy as to break the coheſion it had with the balls, and ſo fall.—Let the two ſets then repreſent two clouds, the one a ſea cloud electrified, the other a land cloud. Bring them within the ſphere of attraction, and they will draw towards each other, and you will ſee the ſeparated balls cloſe thus; the firſt electrified ball that comes near an unelectrified ball by attraction joins it, and gives it fire; inſtantly they ſeparate, and each flies to another ball of its own party, one to

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